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REPORT OF COMMITTEE ON STEPS TOWARD STANDARDIZING
STATED QUANTITIES FOR SLIDES
IN METER SCHEDULES¹

Your Committee presents the following preliminary report, with the request that it be made the subject of general discussion, which will facilitate the preparation of a final report.

The subject assigned to the Committee is somewhat limited in scope, covering only the question of the standardization of quantities in the steps of the schedule. This matter is so closely related to other phases of meter rates that your Committee has found it desirable to touch upon certain questions outside of the stated subject. It recommends that, in its further work, it be empowered to cover the whole field of meter rates.

Many rate schedules in use by water works today have been handed down from early days. In many cases they do not provide a reasonable distribution of the burden of the charges. Each consumer of a water utility should unquestionably pay his proportionate share of the expenses of operation, depreciation and a fair return on the valuation of the property. It is distinctly unfair for one consumer or class of consumers to pay any of the costs of any other consumer or class of consumers. The burden should be equitably distributed. Rates should be just and reasonable both for the consumer and the utility. It is the opinion of the Committee that the scientific readjustment of rate schedules to a reasonable and equitable basis is one of the most important questions confronting water works utilities today.

It is believed that the results can be most expeditiously accomplished through the recommendations by this Association of a standard method of procedure.

Existing meter rate schedules embrace a great diversity of forms. They include uniform rates, sliding scales, jump scales, service charges, minimum charges, meter rentals and modifications and combinations of the above. Sliding scales vary from two or three

¹ Presented before the Philadelphia Convention, May 19, 1922. Report to the Council on Standardization.

steps up to a dozen or more. In some cases the spread or ratio between the highest and the lowest rates is ten to one or more. A majority of schedules retain the minimum principle, allowing the consumer a stated amount of water for a minimum charge. In some plants the water allowances under the minimum charge are so liberal that most of the accounts come under the minimum. This condition offsets to a large extent the advantages of the meter system. Because of the irregularity in minimum practices, and the great variety and number of steps in the scale, existing rate schedules do not lend themselves to ready comparison.

About sixteen years ago, a Committee of the New England Water Works Association, of which the late Freeman C. Coffin was Chairman, presented an excellent report on the subject of meter rates.² The method recommended consisted of a uniform meter rate for all quantities of water used, with a rather large service charge, the amount of which was dependent upon the frontage of the property. The service charge was to be collected in all cases whether water was drawn through the meter or not, thus providing an assured income for the utility, and making possible lower rates for water than would otherwise be necessary. The excellence of the recommendations of the Coffin report was generally recognized. Some of the principles set forth have been applied in rate schedules, but the method as a whole has not been adopted.

Following the Coffin report, a second Committee on Meter Rates was appointed by the New England Water Works Association, about nine years ago, to make a thorough study of the whole field of meter rates. The work of this Committee, involving the collection of meter rates and statistics of the water works of many cities, covered a period of about three years. A preliminary report³ by the Committee was presented in September, 1914. At a meeting of the Association in March 1915, the scope of the Committee's work was extended to include an investigation upon the water unaccounted for or lost in leakage, as this question is involved in meter rates. This matter was made the subject of an additional report by the Committee, in which was included also suggestions for service charges for large meters.⁴ The final report⁵ was presented

² Journal New England Water Works Association vol. 19, 1905, p. 322.

³ Journal New England Water Works Association vol. 28, 1914, p. 199.

⁴ Journal New England Water Works Association, vol. 30, 1916, p. 453.

⁵ Journal New England Water Works Association vol. 30, 1916, p. 361.

in February, 1916, and after much further discussion was adopted by the Association in November, 1916. It has been the standard of that Association to the present time.

The standard form of meter rate schedule recommended by the Committee and adopted as a standard by the New England Water Works Association contains three steps or slides. The first step, called for convenience, the Domestic Rate, includes all water up to 300,000 gallons per annum (820 gallons per day.) The quantities of water included in this rate will include substantially all water used by private residences, excepting a very few houses having large grounds.

The second or Intermediate Rate applies to quantities in excess of 300,000 gallons per annum up to 3,000,000 gallons per annum.

The third and lowest rate is called the Manufacturing or Wholesale Rate and applies to quantities in excess of 3,000,000 gallons per annum.

It was recommended that the price per 1000 gallons, or per 100 cubic feet, be an even number of cents, eliminating fractions, for convenience in billing and accounting. It was further recommended that the Intermediate price for water be to the nearest cent midway between the average and the mean proportional of the Domestic Rate and the Manufacturing Rate. By this rule the Intermediate Rate is definitely fixed at an amount midway or a little below midway between the Domestic and Manufacturing Rates.

The schedule does not fix the rates to be charged. These are to be fixed for each case as may be necessary to produce the required revenue.

The following are the forms for the schedules. They are given in alternate forms, according to whether gallons or cubic feet are used, and whether the unit of time is quarterly or monthly.

Quantities in gallons, bills quarterly

For each service supplied by $\frac{3}{4}$ inch meter there shall be a charge for the service and meter per quarter of \$
In addition thereto, for all water drawn there shall be charged:

	<i>Per 1000 Gallons</i>
For the first 75,000 gallons of water per quarter, or any part thereof, the <i>Domestic Rate</i> of	\$
For water in excess of 75,000 gallons and under 750,000 gallons per quarter, the <i>Intermediate Rate</i> of	\$
For water in excess of 750,000 gallons per quarter, the <i>Manufacturing Rate</i> of	\$

Quantities in gallons, bills monthly

For each service supplied by $\frac{3}{4}$ inch meter there shall be a charge for the service and meter per month, of \$
In addition thereto, for all water drawn there shall be charged:

Per 1000 Gallons

For the first 25,000 gallons of water per month or any part thereof, the *Domestic Rate* of \$
For water in excess of 25,000 gallons and under 250,000 gallons per month, the *Intermediate Rate* of \$
For water in excess of 250,000 gallons per month, the *Manufacturing Rate* of \$

Quantities in cubic feet, bills quarterly

For each service supplied by $\frac{3}{4}$ inch meter there shall be a charge for the service and meter per quarter of \$
In addition thereto, for all water drawn there shall be charged:

Per 100 cubic feet

For the first 10,000 cubic feet of water per quarter or any part thereof, the *Domestic Rate* of \$
For water in excess of 10,000 cubic feet and under 100,000 cubic feet per quarter, the *Intermediate Rate* of \$
For water in excess of 100,000 cubic feet per quarter, the *Manufacturing Rate* of \$

Quantities in cubic feet, bills monthly

For each service supplied by $\frac{3}{8}$ inch meter there shall be a charge for the service and meter per month, of \$
In addition thereto, for all water drawn there shall be charged:

Per 100 cubic feet

For the first 3,300 cubic feet of water per month, or any part thereof, the *Domestic Rate* of \$
For water in excess of 3,300 cubic feet and under 33,300 cubic feet per month, the *Intermediate Rate* of \$
For water in excess of 33,300 cubic feet per month, the *Manufacturing rate* of \$

For the information of the members of the Association, and to facilitate discussion, the following table is given, showing the quantities probably included under the various classes in an average system, based on a summary of the investigations of the New England Committee covering some 35 water works.

REPORT OF COMMITTEE

	<i>Domestic</i>	<i>Intermediate</i>	<i>Wholesale or Manufacturing</i>
Percentage of whole number of takers.....	95.17	4.37	0.46
Average sales per service-gallons per day.....	159.0	1750	35,700
Percentage of metered output in the three classes.....	38.2	19.7	42.1
Percentage of water classified for payment.....	48.4	19.2	32.4

The population served with water by meter rates under the New England Water Works Association form of schedule is very large. The following places may be noted:

Spring Valley Water Company—3 rates		
San Francisco.....	506,676	
San Mateo County (in great part).....	36,781	543,457
East Bay Water Company—2 rates (Domestic and Intermediate) the same		
Alameda.....	28,806	
Albany.....	2,462	
Berkeley.....	56,036	
Oakland.....	216,261	
Piedmont.....	4,282	
San Leandro.....	5,703	
Richmond.....	16,843	
And others.....		350,000
Hackensack Water Company—4 rates.....		355,000
Consolidated Water Company of Suburban New York—3 rates.....		
		15,000
Greenfield, Mass.—3 rates.....		15,462
Norwich, New York—3 rates.....		8,268 *
Sault St. Marie, Mich.....		12,096
Goldsboro, N. C.—3 rates.....		11,300
Springfield Consolidated Water Company of Phila- delphia, Penna.—3 rates.....		165,000*
Commonwealth Water Company, New Jersey—4 rates.....		62,000
East Jersey Water Company, New Jersey (Applied for)—4 rates.....		441,380
Total population.....		1,992,600
*Form of rate based on, but not identical with standard		

Your Committee has obtained the views of each member of the former Committee on Meter Rates of the New England Association as to the desirability of making any changes in their recommendations. No important changes have been suggested. It would

appear that individually the members of the New England Committee after a lapse of six years, still hold to their former findings.

Your Committee has also written to representatives of the works that have adopted the New England schedule without modifications or with relatively unimportant modifications, in order to obtain the benefit of their views based upon practical experiences with this form of rate schedule. Replies from these representatives have expressed general satisfaction with the schedules, both from the standpoint of the utility and of the consumer. No radical departures from the standard form were suggested. Two of the replies, however, indicated a desire to incorporate in the schedule a fourth and lower rate for large manufacturers.

Expressions of opinion of members of the old New England Committee, and of the representatives of the plants operating under the New England standard form of rates, have indicated the desirability of having a standard form which would be uniform for both Associations. Your Committee is also unanimously of the opinion that there should be complete uniformity in the recommendations of the two Associations. One of the most important objects to be gained from the adoption of a standard form of rate schedule is the simple fact that it is a standard, in a form recommended by the leading water works associations, approved by the various public utility commissions, and must ultimately be received and recognized as an established procedure by the consumers. Conflicting recommendations by the two largest Associations would largely defeat the purpose in view, and to this end, the work of your Committee was placed before the New England Water Works Association, at the recent Convention at Bridgeport, Conn., with the result that their co-operation was obtained, and Mr. A. E. Blackmer was appointed as a representative of the New England Water Works Association to co-operate with your Committee.

From the evidence at hand relative to the practical and satisfactory operation of the New England standard form of rates in the plants above mentioned, and owing to the desirability of the adoption of a standard which both Associations could accept, and to the fact that the New England form of rates has been successfully adopted and is used by a number of large water works systems, your Committee has seen no good reason for departing in any great measure from the recommendations of the former New England Committee.

The steps designated are as suitable for the purpose as any that your Committee can now propose.

Your Committee now presents this schedule to this Association for discussion, with a view to its ultimate adoption by the Association if such action appears desirable.

If, on the other hand, the discussion should indicate advantageous changes that your Committee can accept, it will be our idea to co-operate with the New England Water Works Association, through its delegate appointed for that purpose, to see if the matters cannot be adjusted, and the schedules put in such shape that they will be satisfactory to, and can be adopted in identical form by, both Associations. If this could be done, it would establish a standard which water works operators might approach, as far as conditions permit, whenever rates are being revised and that may be adopted in whole or in part as found feasible.

The final report of the New England Committee, as adopted by that Association, provides only three slides in the rate schedule. In the preliminary report of the New England Committee, it was tentatively suggested that if it was thought necessary to make a fourth and lower rate, that this be called a *Special Rate* and that it be made to apply only to quantities in excess of 30 million gallons per annum. Your Committee is of the opinion that, under certain local conditions, in plants supplying large industries, a fourth special rate of this character is desirable, in order to encourage the liberal use of water for manufacturing purposes and to attract new enterprises. It suggests, therefore, that the fourth or special rate be incorporated in our schedule, to be used only rarely, where local conditions demand it, and that it apply only to quantities in excess of 30,000,000 gallons annually, as recommended in the New England Committee's preliminary report. It may be mentioned that the Hackensack Water Company, in adopting this form of schedule, actually established such a special rate for quantities in excess of 30,000,000 gallons per annum, and the East Jersey Water Company has now pending an application for a similar rate.

While your Committee makes no further suggestions for any changes in quantities in the schedule adopted by the New England Water Works Association, it submits the following as an improvement in form, inasmuch as it shows the exact amount of water delivered at the specified rate without the necessity of subtraction. This arrangement, moreover, is more generally approved by the Utility Commissions. The monthly-gallons-basis is selected as an illustration. Other methods of billing would be in similar form.

General use charges—Monthly basis

Service charges			
<i>Size of Meter</i>	<i>Monthly charge</i>	<i>Size of Meter</i>	<i>Monthly charge</i>
$\frac{1}{8}$ inch or less	\$.....	3 inch	\$.....
$\frac{1}{4}$ inch	4 inch
1 inch	6 inch
1 $\frac{1}{2}$ inch	8 inch
2 inch		

For water delivered. In addition to the service charge, there shall be a charge for all water delivered, as follows:

For the first 25,000 gallons per month....\$..... per 1000 gallons
 For the next 225,000 gallons per month....\$..... per 1000 gallons
 For all over 250,000 gallons per month....\$..... per 1000 gallons

Where the fourth or special rate is used, the schedule will be as follows:

For the first 25,000 gallons per month....\$..... per 1000 gallons
 For the next 225,000 gallons per month....\$..... per 1000 gallons
 For the next 2,250,000 gallons per month...\$..... per 1000 gallons
 For all over 2,500,000 gallons per month...\$..... per 1000 gallons

Where multiple meters are used the service charge for each should be applied. Where several meters are used on one service, because of greater convenience and accuracy in measurement, the quantities shown by the several meters are to be combined before billing, giving the taker the advantage in classification resulting therefrom. But where several meters of one taker deliver into separate pipe systems serving different purposes and maintained for the convenience of the taker, each is to be treated as a separate service. The Committee calls attention to the fact that this is in general agreement with the procedure recommended by the Committee on Private Fire Protection presented June 10, 1919, and found in the JOURNAL for November 1919, page 736.

SLIDING SCALE

A rate schedule in the above form is called a sliding scale. Many works now make a single rate for water, applying to both large and small consumers. This is called the uniform rate. This is a much discussed question, and some water works men are of the opinion that a uniform rate should prevail for all classes of consumers, basing their opinion largely on the so called doctrine of equal rights to all, and special privilege to none. It must be admitted, however, that it costs more per 1000 gallons to serve a small than a large consumer. Referring to the summary of statistics, prepared by the New England

Water Works Association Committee, based on the averages of 35 plants, it will be noted that the average amount sold per service per day to domestic consumers is 159 gallons, to manufacturing takers, 35,700 gallons; corresponding to 4770 and 1,071,000 gallons per month respectively. From these statistics it appears that, on an average, one industrial consumer uses as much water as 225 small consumers. It is obvious that the expenses of operation incidental to the reading of meters, delivering bills, office accounting, and the maintenance of 225 services, are vastly greater than for the single large consumer.

There is another charge that might theoretically be added to the service charge, but which practically is not and cannot well be. That is the cost of the 6 inch and 8 inch pipe necessary to carry the water to these smaller services. In an average water works system, the 225 small takers, mentioned above, will require, let us say, two miles of 6-inch and 8-inch pipe for their convenience. The one large taker will probably be on or near one of the main feeders, and will require no service corresponding to that represented by the two miles of the 6- and 8-inch pipe, or at most only a small fraction of it. The cost of this 6-inch and 8-inch pipe is a substantial percentage of the whole cost of an average system. To distribute this cost fairly, the large takers should be asked to pay only a small fraction thereof, while the small takers should carry most of it. Under the Coffin System, mentioned above, this charge would all go in the service charge in proportion to frontage. This is theoretically right, but actually is not practicable. The common method is to use the sliding scale, by means of which this part of the cost is put as a loading on the first water drawn from each service; so that it is carried, not, as in the Coffin report, in proportion to the frontage, but rather in proportion to the size of the houses and the amounts of water drawn and the ability of the takers to pay. It is a good practical working system and its feasibility is fully demonstrated by abundant practice.

There are other points to be considered. There are frequently limits to the amounts that can be collected for water for manufacturing purposes. If the rate is too high the business is not there. It is not necessary to go into this here, but it frequently happens that surplus capacity provided to cover expected growth may be turned to advantage in the interval before it is needed, by being sold for manufacturing purposes at rates, that, while much lower

than domestic rates, still help to carry the system through what would otherwise be a trying period. Often business of this kind actually makes possible lower domestic rates. There has been much discussion and experience along these lines.

The practice of American communities justifies the belief that there is room for and need of the sliding scale. The principal need of the sliding scale is to cover the extra cost of distribution to small takers.

Where the costs of the water pipes when laid are assessed against the takers, as is the case in a small number of American cities the reason for the sliding scale is in great part removed.

Nothing in this Committee's report should be taken as excluding the uniform rate with proper service charges, where local conditions are favorable. It is only a special case coming under the proposed general form. The slide may be more or less as conditions require. When the slide is made zero the rate becomes uniform.

Most of the criticism against the sliding scale has been because of excessive slides, in which a large user obtains water for $\frac{1}{3}$ or $\frac{1}{4}$ of the price per 1000 gallons that is paid by the small user. No defense can be made of such schedules, as they are obviously discriminatory in favor of the large user. Your Committee does not recommend a definite limit as to amount of slide, except to follow, in a general way, the informal recommendation of the New England Water Works Association Committee that the ratio between the domestic and manufacturing rate should rarely exceed 2 to 1. For purposes of discussion, your Committee might further tentatively suggest that in cases where the fourth or special division is used, for very large takers, the amount of slide should not exceed the ratio of 3 to 1.

SERVICE CHARGE.

The classification of quantities now presented is based upon the use of a service charge. Your Committee is of the opinion that it is essential to make a substantial service charge in order to secure equitable rates for all. Departures from long established procedure are invariably met with opposition. Most of the opposition to the service charge, it is believed, has been due to an improper understanding of the principles involved. It has largely grown out of the erroneous idea that the service charge is an additional charge and means higher rates. As a matter of fact it is simply a different

way of distributing the burden and of changing it to correspond more nearly with the actual costs of service.

An examination of the expenses of any water company will show a large number of expenditures in no way related to the amount of water sold. These expenditures would continue even though no water were sold. It is evident, therefore, that a commodity rate cannot properly distribute the costs of service and that the only means to spread the burden equitably is through a service charge.

MINIMUM CHARGE

A Minimum Charge fixes the least amount to be collected from any consumer, but allows him up to a stated amount of water for the stated charge. The amount of water allowed is usually fixed by the amount which the consumer could buy under the highest rate. For instance, with a minimum rate of \$1.00 per month, and the highest rate 25 cents per 1000 gallons, the consumer is allowed up to 4000 gallons per month for the minimum charge. Under such a schedule, a consumer who used only 1000 gallons of water per month pays as much as one who uses the full allowance of 4000 gallons per month, which is obviously discriminatory. A properly determined service charge will always be less than a corresponding minimum rate for any connection. Under many rate schedules now in use, the minimum charges for the larger sizes of meters are wholly inadequate. The substitution of a proper service charge for such connections would necessitate a considerable increase in rates to those takers who have large services through which but little water is taken. Such takers may either substitute a smaller meter, suitable to the quantity of water actually taken, or, if they need the capacity of the larger service for fire service or other occasional use, they should pay a fair price for the service rendered,—and the service charge furnishes this basis.

RECENT RECOGNITION OF SERVICE CHARGE

The service charge principle is slowly but surely receiving general recognition. Rate schedules based upon service charges have been approved in recent rulings by the Public Service Commissions in New Jersey, Pennsylvania, Wisconsin and California, and perhaps other states. Public opposition to the service charge has been particularly observed in Pennsylvania, to the extent that a bill (making such a charge illegal) instituted by the Associated Boroughs,

was pending before the last session of the Legislature. It is to be noted, however, that on the advice of counsel for the Boroughs, the bill was withdrawn.

The New York Commission has ruled—"A service charge is a legal and just charge if properly adjusted as to the amount." In a recent decision in a gas case, this Commission condemned the minimum principle, as follows (this finding applies equally well to water):

The Minimum gas rate is inequitable. A sample case cited is the best proof. Mr. A. and Mr. B. are in the minimum class, which is placed, say, at \$1.00. Mr. A. used 90 cents worth of gas a month; he pays \$1.00. Mr. B. used 20 cents worth of gas a month; he pays \$1.00. If the interest on the service investment to that residence or office is 50 cents, the company sustains a loss from Mr. A. of 40 cents that must be made up by some other consumer, while it has made a profit of 30 cents off Mr. B.

In an order by the Railroad Commission of California, in the case of the Spring Valley Water Company, September 3, 1918, the following was stated:

We have given this matter very extensive and careful consideration and have arrived at the conclusion that the sound basis for establishing these rates is that there should be first a service charge based on the size of meter, which service charge is to be paid by all consumers—regardless of the amount of water used.

This in distinction to the establishment of a minimum charge which involves the payment of a fixed sum by each consumer based on the size of the meter used and which sum includes a service charge together with a charge for a given quantity of water whether used or not. The minimum charge is invariably higher than the service charge, and it involves the payment by each consumer for a fixed amount of water regardless of whether or not he used it. There is no answer known to us which can be made to the man who complains that under a minimum rate he is compelled to pay the same amount for one hundred cubic feet of water as his neighbor pays for three or four hundred cubic feet of water, depending on the amount fixed for minimum use.

On the other hand the establishment of a service charge is designed to exact from each consumer the cost to the company of standing ready to serve and thereafter to pay for only such water as he may use.

We believe that under the conditions of service we are dealing with herein, the service charge once established and thoroughly understood will be agreed to as the fairest and most equitable method of fixing rates.

After fixing the service charge we have given consideration to the charge per hundred cubic feet for water used, and in this connection we have recognized the so-called wholesale principle.

Throughout California flat rates for water service have come to be recognized as unfair and inequitable as between consumers. These rates encourage the wasteful and selfish user to impose an unfair burden upon the thrifty and considerate.

The equity and fairness of rates by measurement cannot be successfully challenged.

With these considerations in mind we have adopted the meter rates set out in the order.

It is of interest to note that the rate schedule adopted in this case is in exact accordance with the standard form recommended by the New England Water Works Association.

The above and many other incidents indicate the increasing recognition of the service charge as the most logical and rational method yet proposed for a suitable rate structure.

DETERMINATION OF RATES

The problems involved in the determination of a fair and equitable rate necessitate the proper and rational division of costs for each different class of service. The theoretical allocation of these costs results in the "three part" rate of (1) Consumer or Service Charge, (2) Demand Charge, (3) Commodity Charge.

The Consumer Charge covers the cost of meter reading, billing, collecting, accounting, repairs and maintenance of meters and services, etc., covering all costs relating to consumers and having no bearing on the quantity of water used by consumers or the maximum demands.

The Demand Charge covers the final costs of the system as maintained to serve the peak load demands upon the plant. This expense is not dependent upon the amount of water consumed. The theoretical charge under this heading for each consumer should obviously be an amount equivalent to his actual maximum demands. It is impractical to ascertain this, however, in the absence of maximum rate recording meters, and the usual method of apportioning this charge to the consumer is on the basis of the unit capacity of the meters.

The Commodity Charge is the charge for the water itself. It covers all costs having to do with the production of the water, and such delivery costs that are proportionate to the amount of water sold.

It is believed there will be unanimity of opinion amongst water works engineers as to the division of the costs of water plant operations into the general classes above. This division of costs has also been recommended for the gas industry, in the 1921 Report of the Rate Structure Committee of the American Gas Association.

The three part rate, as applied to the gas industry, is also discussed in an article by Page Golsan, of the staff of Ford, Bacon and

Davis, in a recent issue of *Gas-Age Record*. This article has been reprinted in pamphlet form, under the title of "Service Charge for Gas Companies." It contains a strong plea for the adoption of a service charge by the gas industry.

There is a divergence of opinion relative to the apportionment of the expenses of plant operation under the respective headings of the three part rate, and their equitable distribution in the rate schedule after they have been determined. To be applied in the rate schedule the three divisions of cost, excluding charges for fire protection, must be properly apportioned to the fixed service charge and the commodity charge or rate per 1000 gallons. It is generally taken that the service charge as levied in the rate schedule should be the sum of the consumer and demand charges, leaving the commodity charge to be applied to the water used. The strict application of theory, however, must be tempered with judgment. If the inclusion of all demand charges resulted in unduly high service charges, it would undoubtedly be desirable to modify the method. All writers on this subject do not concur in the proposition to include all of the demand charges in the service charge. In the article by Page Golsan, referred to above, he states:

In the form of rate usually adopted the Service Charge covers the customer charge, together with that portion of the demand charge found in the *fixed costs of the meter and service pipe*; while the rate per 1000 cu. ft. includes the commodity charge for gas, and being of a declining block character, absorbs the balance of the demand charge. The sum of the consumer charge, together with this definite portion of the demand charge directly assignable to each customer, comprises the usually defined Service Charge. The Service Charge in the gas business is just now coming into general usage. Its exact definition is, therefore, yet to be laid down. Many views exist as to the items to be included, varying from the mere customer charge to a large portion of a full demand charge. . . . No doubt exists, however, concerning (1) the customer charge, (2) the fixed charges on the meter and part of the service, and (3) the fact that there are certain other additional fixed charges. The usually adopted Service Charge recognizes the possible variation in factor (3) in being set at a lesser amount than the allocated costs of a typical installation.

The recommendations of the New England Committee include a suggestion for procedure in the method of determining the service charge, based on

(1) Annual interest and depreciation on the average investment made by the works in the service pipe and meter.

(2) The sum per annum representing approximately the cost of reading meters, keeping meter records, making bills and collecting the money.

(3) An amount covering the approximate average value to the works of the water that passes through the meter without being registered.

The above method would limit the service charge to costs related only to the consumer's meter, necessitating the absorption of general plant demand costs in the commodity charges. This procedure closely agrees with the method described above, as quoted from the paper on "Service Charges for Gas Companies."

In discussion of the final report of the New England Committee on Meter Rates, the following suggestion was made for the division of the whole cost of supplying water.

(1) The cost of supplying water up to the point where water is delivered under pressure up to a reasonably central point.

(2) The cost of distribution.

(3) The service cost, including costs of service pipes and meters.

In view of the divergence of opinion on the questions of the establishment of a proper rate structure, it is obvious that no definite recommendations can be made without further study of the conditions involved and careful deliberation. Your Committee, furthermore, has considered this to be beyond the scope of its present instructions, but, owing to the importance of a general revision of rates, it recommends that its scope be extended to cover the entire subject of the form of rate schedule.

The Committee does not intend any recommendations contained in the above report to be considered as final. Its idea has been to review briefly the important points relative to rate matters and to present a basis for discussion by members, prior to final consideration and report.

Respectfully submitted,

ALLEN HAZEN, *Chairman*,
ISAAC S. WALKER, *Secretary*,
THEODORE A. LEISEN,
GEORGE N. SCHOONMAKER,
BURTON LOWTHER,
Committee.

ARTHUR E. BLACKMER,
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